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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/550,489

09/26/2005

Satoshi Fukui

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EXAMINER

STRIEB, MICHAEL A

ART UNIT

PAPER NUMBER

2809

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/550,489

Applicant(s)

FUKUI ET AL.

Examiner

Michael A. Strieb

Art Unit

2809

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 9/26/2005, 6/22/2006, 2/7/2007.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION***Drawings***

1. The drawings are objected to because multiple elements use the same reference numbers. Specifically, regarding Figures 8 and 11, several numbers used to indicate steps have already been used to describe other elements. The examiner recommends labeling steps "S1, S2,..." etc. for clarification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Tatsuhiko et al (JP 2001-230970).

Regarding **claim 1**, Tatsuhiko et al disclose an image taking device for taking an image of an object by focusing reflected light from the object on a light receiving portion, comprising a measuring portion for measuring a distance between the object and the image taking device; and an exposure control portion for controlling exposure time of the light receiving portion upon taking an image in accordance with the measurement result of the measuring portion (paragraphs 8, 44, and 51).

Regarding **claim 8**, Tatsuhiko et al disclose a method for taking an image of an object by using an image taking device that focuses reflected light from the object on a light receiving portion, the method comprising the steps of measuring a distance between the object and the image taking device; and controlling exposure time of the light receiving portion upon taking an image in accordance with the measurement result (paragraphs 8, 44, and 51).

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Regarding **claim 9**, Tatsuhiko et al disclose a computer program for controlling an image taking device including a light receiving portion for receiving reflected light from an object and a distance measuring sensor, the computer program making a computer execute the processes comprising a process for making the distance measuring sensor measure a distance between the object and the image taking device; and a process for controlling exposure time of the light receiving portion upon taking an image in accordance with the measurement result (paragraphs 8, 18, 44, and 51). Note that in paragraph 18, Tatsuhiko et al make reference to "a digital camera", a "processing module", and an "operation module". The need for a computer program is inherent in the operation of these elements.

4. Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by Okino (US 4,768,876).

Regarding **claim 2**, Okino discloses an image taking device for taking an image of an object by focusing reflected light from the object on a light receiving portion (column 1, lines 57-58) that converts the light into an electric signal (column 2, lines 60-62; column 3, lines 8-10), comprising a measuring portion for measuring a distance between the object and the image taking device (column 6, lines 23-26; 36-49) and a gain control portion for controlling an output gain of the electric signal in accordance with the measurement result of the measuring portion (column 2, lines 64-65; column 3, lines 36-40; column 6, lines 57-60; Figure 1, element 9).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tatsuhiko et al (JP 2001-230970) in view of Knopp et al (US 5,870,167) and in further view of Nonaka (US 5,373,343).

Regarding **claim 3**, Tatsuhiko et al disclose the invention as applied to claim 1 above.

Tatsuhiko et al do not disclose a posture determining portion for determining whether or not the subject surface of the object is perpendicular to an axis along a shooting direction of the image taking device.

Further, Tatsuhiko et al do not disclose an image taking control portion for controlling so as to taking an image of the object if it is determined by the posture determining portion that the subject surface of the object is perpendicular to an axis along the shooting direction of the image taking device.

Further, Tatsuhiko et al do not disclose that the posture determining portion determines whether or not the subject surface of the object is perpendicular to the axis along the shooting direction of the image taking device in accordance with the measurement results of the measuring portion for the points.

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Knopp et al disclose a posture determining portion for determining whether or not the subject surface of the object is perpendicular to an axis along a shooting direction of the image taking device and an image taking control portion for controlling so as to taking an image of the object if it is determined by the posture determining portion that the subject surface of the object is perpendicular to an axis along the shooting direction of the image taking device (column 7, lines 9-12; column 14, lines 6-21; column 15, lines 12-28).

Further, Knopp et al disclose the desirability of having the object in an orientation perpendicular to the axis along the shooting direction of the image taking device (column 6, lines 38-41).

At the time of the invention, it would have been obvious to combine Knopp et al with Tatsuhiko et al. The motivation for doing so would have been to ensure a constant distance between the image taking device and the object so as to provide a constant exposure of light for imaging.

Tatsuhiko et al in combination with Knopp et al do not disclose that the measuring portion measures distances between the image taking device and at least two points in the subject surface of the object as the distance.

Nonaka discloses a measuring portion which measures distances between the image taking device and at least two points in the subject surface of the object (column 2, lines 23-58).

At the time of the invention, a person having ordinary skill in the art would have seen that a predictable result of measuring distances between the image taking device

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and the surface of the object would have been a determination of the object's orientation with respect to the image taking device.

Therefore, it would have been obvious to combine Tatsuhiko et al with Knopp et al and Nonaka to obtain the invention as discloses in claim 3.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okino (US 4,768,876) in view of Knopp et al (US 5,870,167) and in further view of Nonaka (US 5,373,343).

Regarding **claim 3**, Okino discloses the invention as applied to claim 2 above.

Okino does not disclose a posture determining portion for determining whether or not the subject surface of the object is perpendicular to an axis along a shooting direction of the image taking device.

Further, Okino does not disclose an image taking control portion for controlling so as to taking an image of the object if it is determined by the posture determining portion that the subject surface of the object is perpendicular to an axis along the shooting direction of the image taking device.

Further, Okino does not disclose that the measuring portion measures distances between the image taking device and at least two points in the subject surface of the object as the distance.

Further, Okino does not disclose that the posture determining portion determines whether or not the subject surface of the object is perpendicular to the axis along the

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shooting direction of the image taking device in accordance with the measurement results of the measuring portion for the points.

Knopp et al disclose a posture determining portion for determining whether or not the subject surface of the object is perpendicular to an axis along a shooting direction of the image taking device and an image taking control portion for controlling so as to taking an image of the object if it is determined by the posture determining portion that the subject surface of the object is perpendicular to an axis along the shooting direction of the image taking device (column 7, lines 9-12; column 14, lines 6-21; column 15, lines 12-28).

Further, Knopp et al disclose the desirability of having the object in an orientation perpendicular to the axis along the shooting direction of the image taking device (column 6, lines 38-41).

At the time of the invention, it would have been obvious to combine Knopp et al with Okino. The motivation for doing so would have been to ensure a constant distance between the image taking device and the object so as to provide a constant electrical signal based on a constant distance, rather than a plurality of distances.

Okino in combination with Knopp et al do not disclose that the posture determining portion determines whether or not the subject surface of the object is perpendicular to the axis along the shooting direction of the image taking device in accordance with the measurement results of the measuring portion for the points.

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Nonaka discloses a measuring portion which measures distances between the image taking device and at least two points in the subject surface of the object (column 2, lines 23-58).

At the time of the invention, a person having ordinary skill in the art would have seen that a predictable result of measuring distances between the image taking device and the surface of the object would have been a determination of the object's orientation with respect to the image taking device.

Therefore, it would have been obvious to combine Okino with Knopp et al and Nonaka to obtain the invention as discloses in claim 3.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tatsuhiko et al (JP 2001-230970) in view of Knopp et al (US 5,870,167), in further view of Nonaka (US 5,373,343), and in further view of Musgrave et al (US 6,377,699 B1).

Regarding **claim 4**, Tatsuhiko et al in combination with Knopp et al and Nonaka disclose the invention as applied to claim 3 above.

Tasuhiko et al in combination with Knopp et al and Nonaka do not disclose the image taking device further comprising a guiding portion for guiding so that the subject surface becomes perpendicular to the axis along the shooting direction of the image taking device by producing different signs between the case where it is determined that the subject surface of the object is perpendicular to the axis along the shooting direction of the image taking device and the case where it is determined that the subject surface of the object is not perpendicular to the same.

Musgrave et al disclose a guiding portion for guiding so that the subject surface becomes perpendicular to the axis along the shooting direction of the image taking device by producing different signs between the case where it is determined that the subject surface of the object is perpendicular to the axis along the shooting direction of the image taking device and the case where it is determined that the subject surface of the object is not perpendicular to the same (column 7, lines 12-35).

At the time of the invention it would have been obvious to combine Musgrave et al with Tatsuhiko et al, Knopp et al, and Nonaka. The motivation for doing so would have been to more easily and automatically determine the optimum position of the subject so that an accurate scan may be made.

Therefore, it would have been obvious to combine Musgrave et al with Tatsuhiko et al, Knopp et al, and Nonaka to obtain the invention as disclosed in claim 4.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okino (US 4,768,876) in view of Knopp et al (US 5,870,167), in further view of Nonaka (US 5,373,343), and in further view of Musgrave et al (US 6,377,699 B1).

Regarding **claim 4**, Okino in combination with Knopp et al and Nonaka disclose the invention as applied to claim 3 above.

Okino in combination with Knopp et al and Nonaka do not disclose the image taking device further comprising a guiding portion for guiding so that the subject surface becomes perpendicular to the axis along the shooting direction of the image taking device by producing different signs between the case where it is determined that the

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subject surface of the object is perpendicular to the axis along the shooting direction of the image taking device and the case where it is determined that the subject surface of the object is not perpendicular to the same.

Musgrave et al disclose a guiding portion for guiding so that the subject surface becomes perpendicular to the axis along the shooting direction of the image taking device by producing different signs between the case where it is determined that the subject surface of the object is perpendicular to the axis along the shooting direction of the image taking device and the case where it is determined that the subject surface of the object is not perpendicular to the same (column 7, lines 12-35).

At the time of the invention it would have been obvious to combine Musgrave et al with Okino, Knopp et al, and Nonaka. The motivation for doing so would have been to more easily and automatically determine the optimum position of the subject so that an accurate scan may be made.

Therefore, it would have been obvious to combine Musgrave et al with Okino, Knopp et al, and Nonaka to obtain the invention as disclosed in claim 4.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tatsuhiko et al (JP 2001-230970) in view of Hideaki (JP 08-279954).

Regarding **claim 5**, Tatsuhiko et al disclose the invention as applied to claim 1 above.

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Tatsuhiko et al do not disclose a still determining portion for determining whether or not the object is still in accordance with the measurement result of the measuring portion that is obtained at an interval of a predetermined time.

Further, Tatsuhiko et al do not disclose an image taking control portion for controlling so as to take an image of the object if it is determined that the object is still by the still determining portion.

Hideaki discloses a still determining portion for determining whether or not the object is still in accordance with the measurement result of the measuring portion that is obtained at an interval of a predetermined time (paragraphs 8, 23-24).

Further, Hideaki discloses an image taking control portion for controlling so as to take an image of the object if it is determined that the object is still by the still determining portion (paragraph 9, 25).

At the time of the invention, it would have been obvious to a person having ordinary skill in the art to combine Hideaki with Tatsuhiko et al. The motivation for doing so would be to ensure a more accurately focused image by means of imaging a stationary rather than moving subject.

Therefore, it would have been obvious to combine Hideaki with Tatsuhiko et al to obtain the invention as disclosed in claim 5.

11. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okino (US 4,768,876) in view of Hideaki (JP 08-279954).

Regarding **claim 5**, Okino discloses the invention as applied to claim 2 above.

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Okino does not disclose a still determining portion for determining whether or not the object is still in accordance with the measurement result of the measuring portion that is obtained at an interval of a predetermined time.

Further, Okino does not disclose an image taking control portion for controlling so as to take an image of the object if it is determined that the object is still by the still determining portion.

Hideaki discloses a still determining portion for determining whether or not the object is still in accordance with the measurement result of the measuring portion that is obtained at an interval of a predetermined time (paragraphs 8, 23-24).

Further, Hideaki discloses an image taking control portion for controlling so as to take an image of the object if it is determined that the object is still by the still determining portion (paragraph 9, 25).

At the time of the invention, it would have been obvious to a person having ordinary skill in the art to combine Hideaki with Okino. The motivation for doing so would be to ensure a more accurately focused image by means of imaging a stationary rather than moving subject.

Therefore, it would have been obvious to combine Hideaki with Okino to obtain the invention as disclosed in claim 5.

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tatsuhiko et al (JP 2001-230970) in view of Hiroshi et al (JP 2000-36032).

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Regarding **claim 6**, Tatsuhiko et al disclose the invention as applied in claim 1 above.

Tatsuhiko et al do not disclose a background storage portion for storing a background image without the object, an extracting portion for extracting an image that includes only the object by comparing the background image with an image obtained by taking an image of the object, wherein the image taking control portion controls so as to take an image when the distance is not measured by the measuring portion for obtaining the background image.

Hiroshi et al disclose a background storage portion for storing a background image without the object (paragraph 17), an extracting portion for extracting an image that includes only the object by comparing the background image with an image obtained by taking an image of the object (paragraphs 8-10), wherein the image taking control portion controls so as to take an image when the distance is not measured by the measuring portion for obtaining the background image (paragraph 17)

At the time of the invention, it would have been obvious to combine Hiroshi et al with Tatsuhiko et al. The motivation for doing so would have been to better visually inspect the object in question by isolating it from its background.

Therefore, it would have been obvious to combine Hiroshi et al with tatsuhiko et al to obtain the invention disclosed in claim 6.

13. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okino (US 4,768,876) in view of Hiroshi et al (JP 2000-36032).

Regarding **claim 6**, Okino et al disclose the invention as applied in claim 2 above.

Okino does not disclose a background storage portion for storing a background image without the object, an extracting portion for extracting an image that includes only the object by comparing the background image with an image obtained by taking an image of the object, wherein the image taking control portion controls so as to take an image when the distance is not measured by the measuring portion for obtaining the background image.

Hiroshi et al disclose a background storage portion for storing a background image without the object (paragraph 17), an extracting portion for extracting an image that includes only the object by comparing the background image with an image obtained by taking an image of the object (paragraphs 8-10), wherein the image taking control portion controls so as to take an image when the distance is not measured by the measuring portion for obtaining the background image (paragraph 17)

At the time of the invention, it would have been obvious to combine Hiroshi et al with Okino. The motivation for doing so would have been to better visually inspect the object in question by isolating it from its background.

Therefore, it would have been obvious to combine Hiroshi et al with Okino to obtain the invention disclosed in claim 6.

14. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rice (US 4,699,149) in view of Tatsuhiko et al (JP 2001-230970).

Regarding **claim 7**, Rice discloses an image taking device for taking an image of a blood vessel pattern of a body, comprising a lighting portion for irradiating infrared rays to the body and a light receiving portion for receiving reflected light of the infrared rays from the body (column 2, lines 7-18).

Rice does not disclose a measuring portion for measuring a distance between the body and the image taking device.

Further, Rice does not disclose an exposure control portion for controlling so that exposure time of the light receiving portion upon taking an image becomes longer as the distance measured by the measuring portion is longer.

Tatsuhiko et al disclose a measuring portion for measuring a distance between the body and the image taking device (paragraph 8, 44) Further, Tatsuhiko et al disclose an exposure control portion for controlling exposure time (paragraph 8, 51).

At the time of the invention, it would have been obvious to combine Tatsuhiko et al with Rice. The motivation for doing so would have been to allow the means to gather data necessary for the correct exposure of light, and the control of the resultant exposure, so as to avoid over-exposing or under-exposing the subject.

Concerning increasing the exposure time as the distance measured by the measuring portion becomes longer, the claim would have been obvious at the time of the invention because this technique was recognized as part of the ordinary capabilities of one with ordinary skill in the art.

Therefore, it would have been obvious to combine Tatsuhiko et al with Rice to obtain the invention as disclosed in claim 7.

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Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure:

Prokoski (US 6,173,068 B1) "Method and apparatus for recognizing and classifying individuals based on minutiae"

McHugh et al (US 6,289,113 B1) "Handheld iris imaging apparatus and method"

Takahashi (US 6,657,725 B1) "Scanning type projection exposure apparatus and device production method using the same"

Gilliland (US 6,101,268) "Method and apparatus for determining the configuration of a workpiece"

Endoh et al (US 2005/0148876) "Individual identification device"

Kanshu et al (JP 10-295674) "Individual identification device, individual identification method, and individual identification system"

16. Any response to this office action should be faxed to (571) 273-8300 or mailed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand - delivered responses should be brought to:

Customer Service Window
Randolph Building
401 Dulany Street


17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Strieb whose telephone number is 571-270-3528. The examiner can normally be reached on Monday-Friday 8am-5pm EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benny Tieu can be reached on (571) 272-7490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MAS


BENNY Q. TIEU
SPE/TRAINER